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426 INTRODUCING A REMOTE, CROSS-SPECIALTY MEDICAL HANDOVER AT A TERTIARY PAEDIATRIC HOSPITAL

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Background Safe handover of complex paediatric patients is challenging. At our tertiary paediatric hospital, 9 specialty teams hand over to the on-call team, usually trainee-to-trainee. Feedback, at a Health Education England (HEE) quality review in November 2019, highlighted poor attendance, patchy consultant engagement and limited educational opportunities. The need to make handover 'Covid-secure' has added to these difficulties, but has also provided an impetus and opportunity to change our approach to specialty handover.

Objectives To develop a trainee-led improvement programme to create a new handover system, following BMA and NPSA guidance¹. This used data collected from 2 audits; August (audit 1) and November 2020 (audit 2) and a trainee survey (September 2020). We aimed for handover to fulfil the following criteria:

- Safe and effective
- Covid-secure
- Uses available technology
- Bleep-free
- Consultant-supervised
- Cross-disciplinary
- Educational

Methods A group of trainees approached the education team to form a working group. Baseline data were collected from an audit and a trainee survey in August-September 2020, to ascertain trainees' experience of handover. Using these results, programmes of improvements were implemented. A re-audit of handover was carried out in November 2020.

Results Audit 1, of 11/14 handovers over a week (see table 1), showed that handover commonly took place in an unsuitable location, and was rarely bleep-free or attended by a consultant.

38% (18/47) trainees responded to the survey. Only 50% of trainees felt the current handover system was adequate, and 33% felt that handover only 'sometimes' provided adequate information to provide a high standard of care. Several respondents commented that handover was rarely educational.

Audit 2, of 22/24 handovers (table 1) following the trainee-led programme, showed improvements in location and handover being bleep-free and consultant-supported. Attendance by the medical specialty teams improved, but overall attendance fell due to a new requirement for additional staff (such as Advanced Paediatric Nurse Practitioners) to attend, which is not yet occurring consistently.

Conclusions Our trainee-led improvement programme has achieved excellent trainee engagement and increased consultant attendance, resulting in an improvement in the quality of handover and good feedback at a HEE assurance review in December 2020.

Specialty handover now

- Takes place in a dedicated room

- Has simultaneous live steaming via MS Teams, making it convenient to attend and Covid-secure.
- Has consultant supervision (usually remote), encouraging succinct and good quality handovers, and allowing for workplace-based assessments.
- Includes Advanced Paediatric Nurse Practitioners
- Supports a dedicated MS Teams channel, on which anyone can post content of educational value. This has facilitated patient care and generated interesting discussions that would not be possible during formal handover.

Abstract 426 Table 1

	Audit August 2020	Audit November 2020
Suitable location	47%	100%
Bleep-free	39%	56%
Consultant present	22%	39%
Full attendance	58%	54%

This ongoing programme will continue to work towards a bleep-free handover with consistent consultant presence. Next steps include developing a whole-hospital handover, integrating surgical and medical specialties, with greater use of digital solutions.

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445 WILL I LEAVE WORK ON TIME TODAY? A QUALITY IMPROVEMENT PROJECT

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Background Doctors rarely leave work on time; they frequently stay beyond the end of their shift to complete clinical work, documentation and other tasks. This is contributing to burnout and doctors leaving the profession – resulting in those who stay behind, stay even longer!

A Quality Improvement project was carried out at a tertiary Neonatal Unit in London. The time doctors stayed back at the end of each shift was recorded, the reasons for staying back were explored, and different change ideas were tested.

Objectives The project aimed to explore the reasons why doctors do not leave work on time.

The Change Aim:

All doctors finish work on time or within 30 minutes of the end of the shift.

Methods The Model for Improvement was used. Observation, process mapping and a fishbone analysis technique were used to explore the problem.

Measure:

The time (in minutes) stayed back after each doctors' shift was due to end, was recorded on a form in the doctors' room.

Change ideas:

Eight Plan-Do-Study-Act cycles were trialled:

1. Spreading awareness of behaviour
2. Bleep-free handover, to reduce interruptions

3. Outstanding NIPes (Neonatal/Infant Physical Examination), causing delay at discharge were highlighted
4. Exception Reporting discussion at a junior/senior meeting
5. Bleep-free Handover trialled again
6. Improve co-ordination on postnatal wards by encouraging joint doctor-midwife 'huddles'
7. Reduce interruptions on postnatal wards
8. Start handover earlier on postnatal wards

Results An initial run chart showed doctors stayed back a mean of 52 minutes per doctor (Range 0–180 minutes) after their shift was due to end.

Over this project, the mean time doctors stayed back at the end of a shift was reduced from 52 minutes to 28 minutes per doctor per shift.

The most successful PDSAs were improving co-ordination on postnatal ward, and starting handover earlier.

Exception reporting, the main tool for safeguarding working practices is rarely used, despite there being no barriers to do so.

A narrative of doctor's viewpoints showed diverse attitudes including:

'I don't want to handover rubbish!'

'It's just a job.'

'I'm lucky to have the job on my terms, I don't mind staying late.' (part time trainee).

Conclusions There was exemplary engagement of seniors during the course of the project. Furthermore, the actual scheduled working hours were within European Working time directives.

Staying on beyond the shift pattern produces tired, burnt-out doctors, who are more likely to make mistakes or even leave the profession. Safeguarding work-life balance is an important aspect of doctors' and ultimately patients' well-being. The project demonstrated that multiple small adjustments can improve the efficiency of the working day, enabling doctors to leave work on time.

Changes can be considered in three areas.

1. Managing clinical workload
2. Operational Management
3. Doctors views/attitudes (the psychological aspect).

The overall aim is to work smarter, not harder. Quality Improvement Methodology is a powerful tool to enable important change to occur in many aspects of the workplace, contributing to betterment of doctors' work-life balance. This project illustrates this in a novel way. It is now more relevant than ever as the medical profession recovers from the impact of COVID-19.

British Association of Perinatal Medicine and Neonatal Society

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RISK FACTORS FOR LIMB ISCHAEMIA DURING FEMORAL ARTERIAL CATHETERISATION IN THE NEONATAL INTENSIVE CARE UNIT

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Background Intravascular arterial access is used during neonatal intensive care for continuous accurate monitoring of arterial blood pressure and for reliable blood gas measurements.

Common vascular access sites are the umbilical arteries (UAC) and some peripheral arteries. When these routes are not available, a femoral artery catheter can be inserted (FAC).

The leg has some protection against ischaemic injury during FAC insertion by the collateral arterial supply around the hip, but limb ischaemia is a risk. All intensive care procedures have associated risk and the risk and benefits of FAC insertion in an individual patient need to be considered before insertion.

Objectives To review outcomes of FAC insertion in a single large neonatal unit over a 12 year period between 20/8/2008 and 11/5/2020 to identify which babies are at risk of limb injury.

Methods The electronic patient record was used to identify all the neonatal patients who had a FAC insertion between 20/8/2008 - 11/5/2020. Data extracted included: patient demographics, details of the line insertion procedure, reasons for line removal, evidence of compromised limb circulation, and the occurrence of ischaemic injury. Each case of ischemic injury was further investigated.

Results 147 FACs were inserted.

	Median	Lower quartile	Upper quartile
BWt (g)	1012.5	682	2870
Gestation (weeks)	27	24	37
Wt at insertion (g)	1298	882	3000
Age at insertion (days)	12.03	2.02	24.39
Duration of line (days)	4.5	1.9	9

All patients were ventilated at the time of the insertion, and 78% were also receiving inotropes.

Impaired limb perfusion occurred in 32 (21%) patients. This recovered when the line was removed in most cases. The risk of impaired limb perfusion was greater with lower weight at the time of insertion.

Wt on insertion	n	impaired circulation	% impaired circulation
<900g	37	15	40.5
900 to 1300g	34	10	29.4
1301 to 3000g	37	6	16.2
>3000g	34	1	2.9

In 6 babies the impaired perfusion did not recover and injury was sustained. In all cases there was evidence of a delay in the recognition of impaired perfusion and therefore a delay in removal. 2 babies had an associated cause of intraluminal arterial obstruction (co-existing UAC, non occlusive aortic thrombus) and 2 others had previous concerns about limb perfusion that were thought to have resolved at the time of FAC insertion.

Conclusions FAC insertion can enhance the clinical care that babies receive in the Neonatal Intensive Care Unit. Emphasis should be on appropriate patient selection for the procedure,